

5 WHAT IS CLAIMED IS:

1. A biodegradable controlled release chemical composition comprising a particulate starch and at least one chemical.
2. The composition of Claim 1 wherein the particulate starch is a granular starch.
- 10 3. The composition of Claim 2 wherein the chemical is an oil well chemical.
4. The composition of Claim 3 wherein the oil well chemical is selected from the group consisting of friction reducers, corrosion inhibitors, wax inhibitors, hydrate inhibitors, gel breakers, tracers, surfactants, scale inhibitors, antifoaming agents, demulsifiers, pour point depressants, biocides, drag reducers, antioxidants, hydrogen sulfide scavengers, oxygen scavengers, deoilers, and asphaltene inhibitors.
- 15 5. The composition of claim 2, wherein the starch is pitted.
6. The composition of claim 2, wherein the starch is hydrophobically modified.
- 20 7. The composition of claim 6, wherein the starch is starch octenylsuccinate.
8. The composition of Claim 1 further comprising an adjunct selected from the group consisting of a plasticizer, surfactant, filler, chelating agent, thickening agent, particulate, gelatin, gum arabic, zein, soy protein, and polymers/copolymers of polyethylene and polyvinyl chloride.
- 25 9. The composition of claim 1, wherein the starch is chosen to release the chemical at a selected temperature.

5 10. The composition of claim 9, wherein the starch is chosen to release the
chemical at 60°C.

11. A method of preparing the composition of Claim 1 comprising

- a. blending a particulate starch and a chemical to form a mixture; and
- b. treating the mixture to afford a free-flowing, non-sticky powder,

10 provided the treatment allows the starch in the powder to retain its
particulate structure.

12. The method of Claim 11 wherein the particulate starch is a granular
starch.

13. The method of Claim 11, wherein the starch is a pitted starch.

15 14. The composition of claim 11, wherein the starch is hydrophobically
modified.

15. The composition of claim 14, wherein the starch is starch
octenylsuccinate.

16. The method of Claim 11 wherein the treatment comprises stirring the
20 formulation mixture at ambient temperature and pressure until a free-
flowing, non-sticky powder is obtained.

17. The method of Claim 11, wherein the treatment is selected from the
group consisting of vacuum batch thermal processing, roll compaction,
fluid bed processing, spray drying and extrusion.

5 18. The method of Claim 11, wherein the mixture further comprises an adjunct selected from the group consisting of a plasticizer, surfactant, filler chelating agent, thickening agent, particulate, gelatin, gum arabic, zein, soy protein, and polymers/copolymers of polyethylene and polyvinyl chloride.

10 19. A composition comprising a mixture of at least two compositions according to claim 1, wherein the chemicals are incompatible with one another.